Volunteer Lake Assessment Program Individual Lake Reports

CHILDS BOG, HARRISVILLE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	896	**Max. Depth (m):**	5.4	**Flushing Rate (yr^{-1}):**	1.7
Surface Area (Ac.):	105	**Mean Depth (m):**	2.8	**P Retention Coef:**	0.67
Shore Length (m):	3,400	**Volume (m^3):**	1,176,500	**Elevation (ft):**	1375

TROPHIC CLASSIFICATION

Year	Trophic class
1984	OLIGOTROPHIC
1998	OLIGOTROPHIC

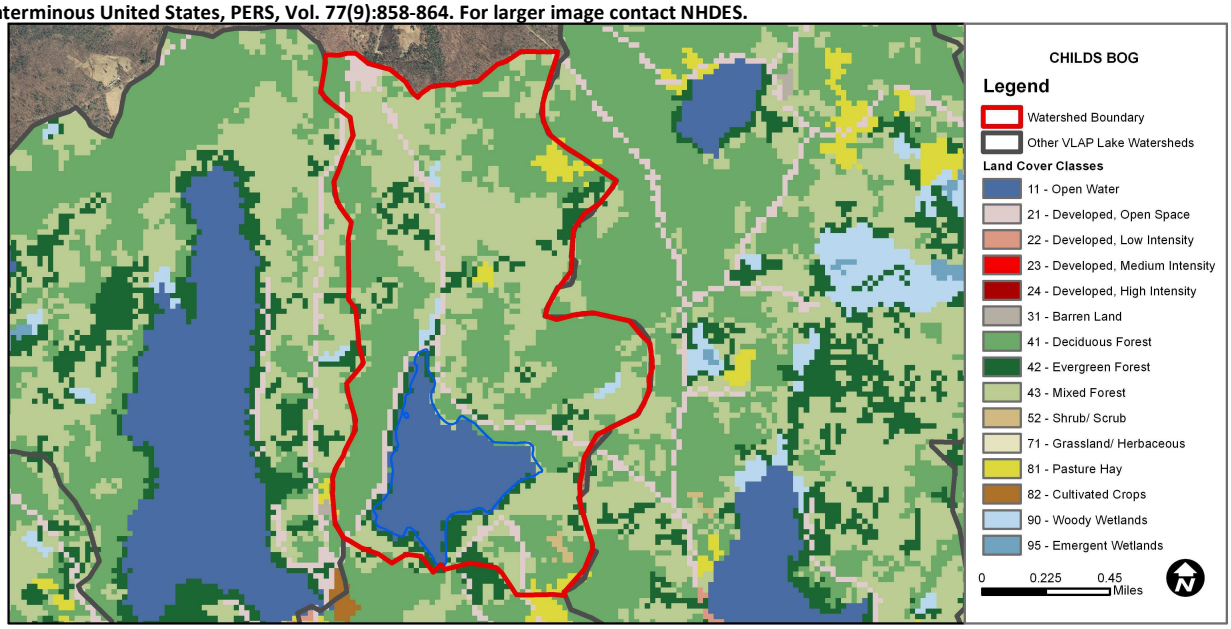
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the DRAFT 2014 305(b) report on the status of N.H. waters, and are based on data collected from 2004-2013. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organizations/divisions/water/wmb/swqa/index.htm

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	The calculated median is fewer than 5 samples but > indicator and the chlorophyll a indicator is okay. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Oxygen, Dissolved	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Dissolved oxygen satura	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Chlorophyll-a	Cautionary	The calculated median is fewer than 5 samples but > indicator. More data needed.
Primary Contact Recreation	Escherichia coli	No Data	No data for this parameter.
	Chlorophyll-a	Encouraging	There are < 10 samples with 0 exceedances of indicator. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



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Childs Bog Harrisville

2014 Data Summary

Observations and Recommendations (*Refer to Table 1 and Historical Deep Spot Data Graphics)*

- **Chlorophyll-a:** Chlorophyll levels were slightly above average and greater than the state median in June.
- **Conductivity/Chloride:** Epilimnetic (deep spot) and Outlet conductivity levels were slightly greater than the state median and increased from that measured in 2013. Epilimnetic chloride levels were slightly greater than the state median likely from road salting of local roadways. Miller Gline Inlet conductivity levels were low.
- **Total Phosphorus:** Epilimnetic, Miller Gline Inlet and Outlet phosphorus levels were low, less than the state median and decreased from those measured in 2013.
- **Transparency:** Transparency was good, approximately equal to the state median, and improved slightly from 2013. Transparency measured with the viewscope (VS) was much better than that measured without.
- **Turbidity:** Epilimnetic, Miller Gline Inlet and Outlet turbidities were within a low to average range in June.
- **pH:** Epilimnetic pH was within the desirable range 6.5-8.0 units, however was much less than desirable in 2012. Miller Gline Inlet and Outlet pH levels were less than desirable.
- **Recommended Actions:** Continue monitoring program to establish baseline water quality conditions. After ten consecutive years of data collections, historical water quality trends will be analyzed and parameters assessed to see if water quality is stable, improving or worsening. Contact the VLAP Coordinator in 2015 to conduct a sampling visit.

Station Name	Table 1. 2014 Average Water Quality Data for CHILDS BOG								
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	Total P ug/l	Trans. m		Turb. ntu	pH
						NVS	VS		
Epilimnion	2.30	4.90	13	67.8	6	3.20	4.50	1.03	6.51
Miller Gline Inlet				20.4	6			0.40	6.17
Outlet				68.1	5			0.81	6.31

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: > 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: between 6.5-8.0 (unless naturally occurring)

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	N/A	Ten consecutive years of data necessary for analysis.	Chlorophyll-a	N/A	Ten consecutive years of data necessary for analysis.
pH (epilimnion)	N/A	Ten consecutive years of data necessary for analysis.	Transparency	N/A	Ten consecutive years of data necessary for analysis.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary for analysis.